

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

REPORT OF WELL ABANDONMENT

Bakersfield, California

October 6, 1987

Kwang U. Park

ARCO OIL & GAS CO.

P. O. Box 147

Bakersfield, CA 93302

Your report of abandonment of well "Lieber" 1
(Name and number)

A.P.I. No. 029-79821, Section 28, T. 25S, R. 25E, M.D. B. & M.,

-- field, Kern County,

dated 08-24-87 received 08-24-87, has been

examined in conjunction with records filed in this office, and we have determined that all of
the requirements of this Division have been fulfilled.

Blanket Bond

DM:dp

*Map off Conf. Status
(87-4200)*

M. G. MEFFERD

State Oil and Gas Supervisor

By

E. A. WELGE, Deputy Supervisor

API NO. 029 - 79821

[illegible]

Instructions: Prepare and submit the "Final Report" on the first Wednesday after allowable has been assigned or well is Plugged, Abandoned, or Sold. "Final Report" should be submitted also when operations are suspended for an indefinite or appreciable length of time. On workovers when an official test is not required upon completion, report completion and representative test data in blocks provided. The "Final Report" form may be used for reporting the entire operation if space is available.

WELL SUMMARY REPORT				Accounting cost center code EB 50226	
District WESTERN		County or Parish KERN COUNTY		State CALIFORNIA	
Field WILDCAT		Lease or Unit LIEBER			Well no. 1
Auth. or W.O. no. R46419 API: 029-79821		Title DRILL AND EVALUATE			
660' SOUTH & 2000' EAST OF NW CORNER, Sec 28 T25S R25E, MDB&M, Kern County					
Operator ARCO OIL AND GAS COMPANY		A.R.Co. W.I. 1.000000		Total number of wells (active or inactive) on this cost center prior to plugging and abandonment of this well	
Spudded or W.O. begun SPUD		Date 4-18-87		Hour 1000 HOURS	Prior status if a W.O.

Date and depth
as of 8:00 a.m.

Complete record for each day reported

Ground Elevation: 284' All Measurements KB = 20' Above GL
Total Depth: 4201' PBD: 5' Plugs: 4201' - 1970' (Mud) Junk: None
1970' - 1569' (Cement)
881' - 743' (Cement)
25' - 5' (Cement)

Casing Detail:

Casing Size	Top of Casing	Shoe Depth	Weight (lb/ft)	Grade	New / Used	Hole Size	SX/CF Cement
13-3/8"	0'	40'	68#	K-55 BTC	New	As Conductor	
9-5/8"	0'	823'	47#	S-125 BTC	New	12-1/4"	370 sx

Perforation Detail: N/A

E-Logs: SDL/DSN 823'-4152', DIL/AVL 823'-4176', Micro Log 823'-4152', Spectral Density Log 823'-4152', Full Wave Sonic Log 800'-4140', Formation Test

Other Surveys: SWC

Formations: (Depths are from 4/23/87 DIL)

First Mya - 2040'
Etchegoin - 3299'

WELL PLUGGED AND ABANDONED 4-29-87

Old TD		New TD 4201'		PB Depth 5'	
Released rig 0400 HOURS		Date 4-29-87		Kind of rig Rotary (Cal Pac #3)	
Classifications (oil, gas, etc.) Oil - Dry Hole				Type completion (single, dual, etc.)	
Producing method				Official reservoir name(s)	
Potential test data					
Well no.	Date	Reservoir	Producing Interval	Oil or gas	Test time
Pump size, SPM X length	Choke size	T.P.	C.P.	Water %	GOR
The above is correct					
Signature R. L. THOMAS		Date 8/12/87		Title DISTRICT DRILLING ENGINEER	

For form preparation and distribution, see Procedures Manual, Section 10, Drilling, Pages 86 and 87.

ARCO Oil and Gas Company
4550 California Avenue
Bakersfield, CA 93309
(805) 321-4061

Kwang U. Park 8/24/87
Kwang U. Park
District Drilling Superintendent

Number all daily well history forms consecutively as they are prepared for each well.

Page no.

Instructions: Prepare and submit the "Initial Report" on the first Wednesday after a well is spudded or work operations are started.
Daily work prior to spudding should be summarized on the form giving inclusive dates only.

RECEIVED

District WESTERN	County or Parish KERN COUNTY	AUG 24 1987	State CALIFORNIA
Field WILDCAT	Lease or Unit LIEBER	DIVISION OF OIL & GAS BAKERSFIELD	Well no. 1
Auth. or W.O. no. R46419	Title DRILL AND EVALUATE		

660' SOUTH & 2000' EAST of NW Corner, Sec. 28, T25S, R25E, MDB&M, Kern County		
Operator ARCO OIL AND GAS COMPANY	A.R.Co's W.I. 1.000000	
Spudded or W.O. begun SPUD	Date 4-18-87	Hour 1000 HOURS
Prior status if a W.O.		

Date and depth as of 8:00 a.m.	Complete record for each day reported
6:00 AM	
2 4-20-87	TD: 823' (763') - Test BOPE (9-5/8" @ 823') MUD: 8.8 ppg VIS: 45 MIRU Cal Pac #3. Spud at 1000 hrs. 4-18-87. Drill 12-1/4" hole from 60' - 823'. CBU. Wiper trip. CBU. POOH. Run 20 its of 9-5/8" 47# S-125 casing with shoe at 823'. float collar at 744'. Pump 30 bbl Sepiolite spacer ahead of 370 sx Class G + 3% CaCl ₂ mixed at 15.8 ppg. Displace with mud. Bump plug with 900 psi. Floats held. CIP at 0705 hrs. 4-19-87. Good circulation with 4 bbl cement returns. Cut off conductor. Weld on 9-5/8" x 11" SOW 3000 psi wellhead. NU BOPE.
3 4-21-87	TD: 2005' (1182') - Drilling (9-5/8" @ 823') MUD: 9.1 ppg VIS: 41 Test BOPE. Clean out cement and float equipment. Drill 8-1/2" hole to 840'. CBU. PIT - 13.1 ppg EMW. Drill 840' - 2005'.
4 4-22-87	TD: 2740' (735') - RIH (9-5/8" @ 823') MUD: 9.8 ppg VIS: 43 Drill 8-1/2" hole 2005' - 2740'. POOH to clean packed off BHA. Stage in hole, conditioning mud.
5 4-23-87	TD: 3886' (1146') - Survey (9-5/8" @ 823') MUD: 9.8 ppg VIS: 40 Ream 2640' - 2740'. Drill 8-1/2" hole 2740' - 3611'. Wiper trip. Drill 3611' - 3886'.
6 4-24-87	TD: 4201' (315') - Logging (9-5/8" @ 823') MUD: 9.8 ppg VIS: 41 Drill 8-1/2" hole 3886' - 4201'. Wiper trip. CBU. POOH. Run DIL/LSS/GR/SP from 4201' - 823'. RIH CDL/DSN/GR/ML.
9 4-27-87	TD: 4201' (0') - Running VSP (9-5/8" @ 823') MUD: VIS: Run CDL/DSN/GR/ML from 4201' - 823'. Run SWS (shot 30, recovered 26, misfired 4). Run 4 RFT's. Wiper trip. Run VSP with levels every 25'. Wiper trip. RIH VSP.
10 4-28-87	TD: 4201' (PBTD: 1550') - WOC (9-5/8" @ 823') MUD: VIS: Finish VSP logs. RIH OEDP to 1970'. Plug #1: 145 sx Class G + 3% CaCl ₂ mixed at 15.8 ppg. CIP at 0305 hrs. 4-28-87. POOH. Lay down excess pipe.

The above is correct

Signature R. L. Thomas	Date 8/12/87	Title District Drilling Engineer
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For form preparation and distribution,
see Procedures Manual, Section 10,
Drilling, Pages 86 and 87.

Number all daily well history forms consecutively
as they are prepared for each well.

Page no.

Instructions: This form is used during drilling or workover operations. If testing, coring, or perforating, show formation name in describing work performed. Number all drill stem tests sequentially. Attach description of all cores. Work performed by Producing Section will be reported on "Interim" sheets until final completion. Report official or representative test on "Final" form. 1) Submit "Interim" sheets when filled out but not less frequently than every 30 days, or (2) on Wednesday of the week in which oil string is set. Submit weekly for workovers and following setting of oil string until completion.

District WESTERN	County or Parish KERN COUNTY	State CALIFORNIA
Field WILDCAT	Lease or Unit LIEBER	Well no. 1

Date and depth
as of 8:00 a.m.
6:00 AM

Complete record for each day while drilling or workover in progress

10-3/4
4-29-87

TD: 4201' (PBD: Surface) - Rig released (9-5/8" @ 823')
POOH. Lay down excess pipe. RIH. Tag TOC of plug #1 at 1569'. DOG
witnessed tag. POOH to 881'. Lay balanced plug from 881' - 743' with 56
sx Class G + 3% CaCl₂ mixed at 15.8 ppg. CIP at 1014 hrs, 4-28-87. DOG
witnessed pumping of plug #2. POOH. Lay down pipe. ND BOPE. Cut off
9-5/8" casing 5' below ground. Set surface plug from 25' - 5' with 19 sx
Class G + 3% CaCl₂ mixed at 15.8 ppg. CIP at 2230 hrs, 4-28-87. DOG
waived witness of surface plug. Weld steel plate on casing stub. RD.
Rig released at 0400 hrs, 4-29-87.

The above is correct

Signature R. L. Thomas	Date 3/12/87	Title District Drilling Engineer
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For form preparation and distribution
see Procedures Manual Section 10,
Drilling, Pages 86 and 87

RECEIVED

CORE LABORATORIES, INC.

AUG 24 1987

Company : ARCO OIL & GAS CO.
Well : "LIEBER" 1
Location : SEC. 28-T25S/R25E
Co, State : KERN COUNTY, CA., CA.

Field : MCFARLAND-NW FIELD
Formation :
Coring Fluid : WATER BASE
Elevation : 298' KB
DIVISION OF FIELD : 15428
BAKERSFIELD
Date : 24-APR-1987
API No. : 04-029-79821
Analysts: DIK AB

SIDEWALL CORE ANALYSIS RESULTS

SAMPLE NUMBER	SAMPLE REC.	DEPTH ft	PERMEABILITY (EMPIRICAL) md	POROSITY (FLUIDS) %	SATURATION (PORE VOLUME) OIL %	WATER %	SAMPLE WEIGHT gm	DESCRIPTION
1	1.7	2043.0	2200.0	28.8	0.0	89.1	16.46	SD GY VF-CGR SLTLY FOS INCL NO STN NO FLU
2	1.7	2045.0	3000.0	29.5	0.0	86.6	11.84	SD GY VF-CGR SLTLY NO STN NO FLU
3	1.7	2070.0	2000.0	27.5	0.0	87.1	10.88	SD GY VF-MGR SLTLY CALC NO STN NO FLU
4	1.5	2083.0	1700.0	32.5	0.0	61.5	11.23	SD GY VF-MGR SLTLY CALC CLY INCL NO STN NO FLU
5	1.7	2103.0	650.0	28.9	0.0	87.1	12.17	SD GY VF-MGR SLTLY SCLY FOS VCALC NO STN NO FLU
6	1.6	2111.0	1800.0	28.3	0.0	91.7	12.18	SD GY VF-MGR SLTLY SCALC NO STN NO FLU
7	2.0	2130.0	2150.0	28.3	0.0	91.1	13.05	SAME/CGR
8	1.7	2133.0	1850.0	33.9	0.0	59.8	12.98	SD GY-TN VF-FGR SLTLY NO STN NO FLU
9	2.0	2176.0	2000.0	29.6	0.0	87.5	14.24	SD GY VF-CGR SLTLY NO STN NO FLU
10	2.0	2200.0	600.0	35.2	0.0	94.9	12.55	SD GY VF-MGR SLTLY SCLY FOS INCL NO STN NO FLU
		2262.0						NO ANALYSIS - GY SH
		2270.0						NO ANALYSIS - GY SH
		2395.0						NO ANALYSIS - GY SH
11	2.0	2430.0	50.0	38.5	0.0	79.1	8.77	SD GY VFGR VSLTY LG CLY LAMS NO STN NO FLU
12	2.0	2433.0	40.0	38.4	0.0	80.3	9.66	SAME
		2480.0						NO ANALYSIS - GY SH
		2800.0						NO ANALYSIS - GY SH
13	2.0	3043.0	55.0	34.8	0.0	88.1	10.12	SD GY VFGR VSLTY LG CLY LAMS NO STN NO FLU
14	1.7	3417.0	80.0	33.9	0.0	91.7	9.47	SD GY VFGR VSLTY CLY CALC FOS NO STN NO FLU
15	1.7	3427.0	450.0	31.4	0.0	91.6	13.50	SD GY VFGR SLTLY SCLY CALC FOS NO STN NO FLU
		3480.0						NO ANALYSIS - SLT GY VFGR SD
16	2.0	3705.0	1300.0	35.5	0.0	89.3	11.19	SD GY VFGR SLTLY NO STN NO FLU
17	1.5	3878.0	200.0	32.1	0.0	93.8	13.52	SD GY VFGR SLTLY CALC FOS NO STN NO FLU
18	1.5	3891.0	100.0	26.0	0.0	88.8	11.46	SD GY VFGR VSLTY VFOS VCALC NO STN NO FLU
19	1.5	4010.0	400.0	32.4	0.0	90.8	11.27	SD GY VFGR SLTLY SCALC NO STN NO FLU
		4068.0						NO ANALYSIS - GY SH

CONFIDENTIAL

RECEIVED

CONFIDENTIAL

FORMATION TEST SUMMARY AUG 24 1987

DIVISION OF OIL & GAS
BAKERSFIELD

Run 1

Test 1 Depth 2045 ft.

Hydrostatic 1214
Fm. pressure 814

Test failed - Did not appear to
have a good seat.

Test 2 Depth 2043 ft.

Hydrostatic 1320
Drawdown 20
Shutin 800
Fluid ---

Attempted fluid sample. Tool
plugged Rec 1000 cc mud filtrate.
Pulled out of hole - cleaned sand
out of tool and re-ran.

Run 2

Test 3 Depth 2105' Pressure only

Hydrostatic 1120 psi
Formation 840 psi

Test 4 Depth 2085' Pressure only

Hydrostatic 1212 psi
Formation 832 psi

Test 5 Depth 2070' Pressure only

Hydrostatic 1042
Formation 826 psi

Test 6 Depth 2047 Pressure and attempted fluid sample

Hydrostatic 1030 psi
Formation 816 psi

Pulled out of hole - check chambers for fluid. 800 cc. of Drilling
mud/mud filtrate.

RW 2.0 at 80°
No pressure and no gas.
Tool plugged by sand.
Same tool - cleaned out sand and re-ran tool.

CONFIDENTIAL

FORMATION TEST SUMMARY

CONFIDENTIAL

Run 3

Test 7 Depth 2247 Pressure only

Hydrostatic	1126 psi
Formation	927 psi

Test 8 Depth 2200 Pressure only

Hydrostatic	1106 psi
Formation	878 psi

Test 9 Depth 2177 Pressure and attempted fluid sample

Hydrostatic	1096 psi
Formation	868 psi

The pressure never dropped - we opened both chambers P/C to check samples; tool plugged with sand - had to change out tools to new tool.

Run 4 Re-ran in with new tool.

Test 10 Depth 2110 Pressure only

Hydrostatic	1064 psi
Formation	840 psi

Test 11 & Depth 2107 Pressure and attempted fluid sample.
Test 12

Hydrostatic	1060 psi/1062
Formation	838 psi/840

Test 11 - started to pull off before fluid sample so reset and got test 12.

Long drawdown, Large chamber pressure 176 psi
Small chamber pressure 89 psi - never built up
No fluid or gas recovered - released Welex per Baker.

DIVISION OF OIL AND GAS

Report on Operations

Kwang U. Park
ARCO OIL & GAS CO.
P. O. Box 147
Bakersfield, CA 93302

Bakersfield, Calif.
May 11, 1987

Your operations at well "Lieber" 1, API No. 029-79821,
Sec. 28, T25S, R25E, M.D. B. & M. -- Field, in Kern County,
were witnessed on 4-29-87. Richard Rose, representative of
the supervisor, was present from 2100 to 2130. There were also present
Mr. Roy Schillings

Present condition of well: 9 5/8" cement 823'. TD 4201'. Plugged with cement 1970'-1569',
881'-773', and 30'-5'.

The operations were performed for the purpose of abandonment.

DECISION: THE PLUGGING OPERATIONS AS WITNESSED AND REPORTED ARE APPROVED.

RR: jk

M. G. Mefferd, State Oil & Gas Supervisor

By 

E. A. Welge, Deputy Supervisor

**DIVISION OF OIL AND GAS
Cementing/Plugging Memo**

487-247

Operator Asco Well No. "Lieber" 1
 API No. 029-79821 Sec. 28, T. 25S, R. 25E, MD B&M
 Field Kern County, County Kern. On 4-29-87
 Mr. R. Rose, representative of the supervisor was present from 2101 to 2131.
 There were also present Mr. Roy Schilling
 Casing record of well: 9 5/8" cem. 823' T.D. 4201'
Plugged w/cem. 1970' - 1569', 88 1/2' - 773', and 30' - 5.'

The operations were performed for the purpose of AI

☒ The plugging/cementing operations as witnessed and reported are approved.

☐ The location and hardness of the cement plug @ _____' is approved.

Hole size: _____" fr. _____' to _____', _____" to _____' & _____" to _____'

Casing				Cemented			Top of Fill		Squeezed Away	Final Press.	Perfs.
Size	Wt.	Top	Bottom	Date	MO-Depth	Volume	Annulus	Casing			

ENV
 SK 7-23-87
 RR

Casing/tubing recovered: _____" shot/cut at _____', _____' pulled fr. _____';
 _____" shot/cut at _____', _____' pulled fr. _____'.

Junk (in hole): _____

Hole fluid (bailed to) at _____'. Witnessed by _____

Mudding	Date	Bbls.	Displaced	Poured	Fill	Engr.

Cement Plugs		Placing		Placing Witnessed		Top Witnessed			
Date	Sx./cf	MO & Depth	Time	Engr.	Depth	Wt./Sample	Date & Time	Engr.	
4/28	145 Sx.	D.P. 1970'	800	RR, JP, MG	1569'	10K —	4/28 400	RR	
4/28	56 Sx.	✓ 881'	1000	✓ ✓ ✓	773'	—	rpt	RR	
4/28	19 Sx.	✓ 30'	1200	✓	5'	waived	4/29 2200	RR	

RR
 OK
 4/8

PERMIT TO CONDUCT WELL OPERATIONS

--
(field code)

--
(area code)

--
(new pool code)

--
(old pool code)

Kwang U. Park
ARCO OIL & GAS COMPANY
P. O. Box 147
Bakersfield, CA 93302

Bakersfield, California
August 27, 1987

Your _____ proposal to _____ abandon _____ well _____ "Lieber" 1 _____,
A.P.I. No. 029-79821 _____, Section 28, T. 25S, R. 25E, MD B. & M.,
_____ field, _____ area, _____ pool,
Kern County, dated 8/24/87, received 8/24/87 has been examined in conjunction with records
filed in this office.

DECISION: THE PROPOSAL, COVERING WORK ALREADY COMPLETED IN ACCORDANCE WITH
PRIOR AGREEMENT, IS APPROVED.

NOTES:

1. THIS DIVISION SHALL BE NOTIFIED TO INSPECT the cleaned-up well site before final approval of abandonment will be issued.
2. All casings must be removed from at least 5 ft. below ground level.

Blanket Bond

Engineer W. F. White

Phone (805) 322-4031
WFW/kr JB

M. G. MEFFERD, State Oil and Gas Supervisor

By E. A. Welge
E. A. WELGE, Deputy Supervisor

A copy of this permit and the proposal must be posted at the well site prior to commencing operations.

Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended.

Abd
with dry hole
w/

FORM OG108 (7/80)

STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

RECEIVED

AUG 24 1987

DIVISION OF OIL & GAS
BAKERSFIELD

Notice of Intention to Abandon Well

This notice must be given at least five days before work is to begin.

FOR DIVISION USE ONLY			
CARDS	BOND	FORMS	
		OGD114	OGD121
	Bl	87-35	D

DIVISION OF OIL AND GAS

In compliance with Section 3229, Division 3, Public Resources Code, notice is hereby given that it is our intention to abandon well LIEBER #1, API No. 029-79821, Sec. 28, T. 25S, R. 25E, MD B. & M., WILDCAT Field, KERN County, commencing work on 4-28-87, 19 .

The present condition of the well is:

1. Total depth 4201' PBD: 1550'
2. Complete casing record, including plugs and perforations
13-3/8" 68# K-55 BTC conductor at 40' (GLE)
9-5/8" 47# S-125 BTC at 823'
(All depths KB = 20' above GL)
3. Last produced N/A
(Date) (Oil, B/D) (Gas, Mcf/D) (Water, B/D)
or
4. Last injected N/A
(Date) (Water, B/D) (Gas, Mcf/D) (Surface pressure)

Additional data for dry hole (show depths):

5. Oil or gas shows
6. Stratigraphic markers
7. Formation and age at total depth
8. Base of fresh water sands

The proposed work is as follows:

1. RIH OEDP to 1970'. Mix and pump 145 sx Class G + 3% CaCl₂. WOC. RIH and tag TOC. DOG to witness.
2. Pull to 881'. Mix and pump 56 sx Class G + 3% CaCl₂. POOH. Cut off 9-5/8" casing 5' below ground level.
3. Set surface plug 5' - 25' with 19 sx Class G + 3% CaCl₂.
4. Weld on steel plate. RDMO.

Verbal approval to P & A received by Richard Rose of DOG on 4-25-87.

It is understood that if changes in this plan become necessary, we are to notify you immediately.

Address 4550 California Avenue
(Street)
Bakersfield, CA 93309
(City) (State) (Zip)
Telephone Number (805) 321-4060
(Area Code) (Number)

ARCO Oil and Gas Company
Div. of Atlantic Richfield Co.
(Name of Operator)
By Kwang U. Park
(Print Name)
Kwang U. Park 8/24/87
(Signature) (Date)

RET

DIVISION OF OIL AND GAS

Report on Operations

Kwang U. Park
ARCO OIL & GAS CO.
P. O. Box 147
Bakersfield, CA 93302

Bakersfield, Calif.
April 23, 1987

Your operations at well "Lieber" 1, API No. 029-79821,
Sec 28, T25S, R25E, M.D. B. & M. -- Field, in Kern County,
were witnessed on 4-20-87. F. Leeson, J. Perrick, M.T. Gamache, representatives of
the supervisor, ^{were} present from 0400 to 0800. There were also present
R. Shilling, operator representative.
Present condition of well: 9 5/8" cement 823', TD 825'. Plug with cement 823'-744'.

The operations were performed for the purpose of testing the blowout prevention equipment
and installation.

DECISION: THE BLOWOUT PREVENTION EQUIPMENT AND ITS INSTALLATION ON THE 9 5/8"
CASING ARE APPROVED.

Deficiencies noted & repaired:

1. Bleed line not staked.
2. N₂ bottle leak.
3. Stand pipe pressure gauge needs repair.

FL/JP/MTG: jk

M. G. Mefferd, State Oil & Gas Supervisor

By: E. A. Welge

E. A. Welge, Deputy Supervisor

792-2033

DIVISION OF OIL AND GAS
BLOWOUT PREVENTION EQUIPMENT MEMO

487-205

Operator Arco Oil & Gas Co. Well "LIEBER" #1 Field KERN County KERN

VISITS: Date 4/20/87 Engineer FL, JP, MTG Time 0400 to 0800 Operator's Rep. R. Skilling Title Operator Rep.

Casing record of well: 95/8 CEM 823 TO 825. Plug w/ cement 823-744

OPERATION: Testing (inspecting) the blowout prevention equipment and installation.
DECISION: The blowout prevention equipment and its installation on the _____ casing are approved.

REQUIRED BOPE CLASS: III 2MB

Proposed Well Opns: Drilling MPSP: _____ psi
Hole size: 12 1/4 " fr. 0 to 823 " to _____ & _____ " to _____

CASING RECORD (BOPE ANCHOR STRING ONLY)								Cement Details			Top of Cement			
Size	Weight(s)	Grade(s)	Shoe at	CP at				370 sx G	3% Cal ¹²	Casing	Annulus			
95/8	47 lb	S-125	823	744				Insert @ 744			744	Surf		
BOP STACK								a	b	a/b	TEST DATA			
API Symb.	Ram Sz.	Mfr.	Model or Type	Size (in.)	Press. Rtg.	Date Last Overhaul	Gal. to Close	Rec. Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.	
A		Hydral	Ann	135/8	3000							4/20/87	1000	
R	4 1/2	Shaffer	CSO		✓							✓	1500	
R	✓	✓	Pipe		✓							✓	2000	
ACTUATING SYSTEM								AUXILIARY EQUIPMENT						
Accum. Unit(s) Wkg. Press. <u>2900</u> psi Total Rated Pump Output _____ gpm Distance From Well Bore <u>50</u> ft.								No.	Sz. (in.)	Rated Press.	Connections			
											Weld	Flan.	Thrd.	
Mfr.								Fill-Up Line						
Accum. Cap.								Kill Line						
Precharge								Control Valve(s)						
1	KOOBET 90 gal.							Check Valve(s)						
2								Auxil. Pump Connec.						
CONTROL STATIONS								Choke Line						
✓	Manif. at accum. unit							Control Valve(s)						
✓	Remote at Drllr's. stn.							Pressure Gauge						
Other:								Adjustable Choke(s)						
EMERG. BACKUP SYST.								Bleed Line						
3	N2 Cyl No: Type: 1 2000 10 gal.							Upper Kelly Cock						
Other:								Lower Kelly Cock						
								Standpipe Valve						
								Standpipe Pressure Ga.						
								Pipe Safety Valve						
								Internal Preventer						
HOLE FLUID MONITORING EQUIPMENT								REMARKS:						
Calibrated Mud Pit								① DEFIC. G.M. (1) Bleed line not stacked repaired						
Pit Level Indicator								② N2 BOTTLE LEAK Repaired						
Pump Stroke Counter								③ STAND Pipe pressure gauge needs repair						
Pit Level Recorder								DEFICIBLIES NOTED & REPAIRED						
Flow Sensor														
Mud Totalizer														
Calibrated Trip Tank														
Other:														
								Hole Fluid Type		Weight		Storage Pits		

PERMIT TO CONDUCT WELL OPERATIONS

000
(field code)
00
(area code)
00
(new pool code)
--
(old pool code)

Kwang U. Park
ARCO OIL & GAS COMPANY
P. O. Box 147
Bakersfield, CA 93302

Bakersfield, California
March 3, 1987

Your _____ proposal to _____ drill _____ well "Lieber" 1
A.P.I. No. 029-79821, Section 28, T. 25S, R. 25E, MD _____ B. & M.,
_____ field, _____ area, _____ pool,
Kern County, dated 2/24/87, received 2/27/87 has been examined in conjunction with records
filed in this office.

DECISION: THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Drilling fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
2. Sufficient cement shall be pumped back of the 13 3/8" & 9 5/8" casings to fill to the surface.
3. Sufficient cement shall be used to fill the annular space behind the 5 1/2" casing to at least 500' above oil and gas zones and excessive pressure intervals and to at least 100' above the base of fresh water.
4. The specified blowout prevention equipment, as defined by DOG Manual M07, is considered minimal and shall be installed and maintained in operating condition at all times: On the 9 5/8" casing, DOG Class III, 2M and hole fluid monitoring equipment B.
5. THIS DIVISION SHALL BE NOTIFIED TO WITNESS a test of the blowout prevention equipment prior to drilling out the shoe of the 9 5/8" casing.
6. No change in the proposed program shall be made without prior approval of this Division.

NOTES:

1. The Division will monitor the monthly production of this well for a period of 6 months, and if anomalous water production is indicated, remedial action will be ordered.
2. Confidential status is granted for two years per Public Resources Code, Section 3234.

Blanket Bond

Engineer Dan Tuttle

Phone (805) 322-4031
DT/kr

M. G. MEFFERD, State Oil and Gas Supervisor

By *E. A. Welge*
E. A. WELGE, Deputy Supervisor

**A copy of this permit and the proposal must be posted at the well site prior to commencing operations.
Records for work done under this permit are due within 60 days after the work has been completed
or the operations have been suspended.**

DIVISION OF OIL AND GAS
Notice of Intention to Drill New Well

FEB 27 1937

DIVISION OF OIL & GAS
BAKERSFIELD

C.E.Q.A. INFORMATION			
EXEMPT <input type="checkbox"/>	NEG. DEC. <input type="checkbox"/>	E.I.R. <input type="checkbox"/>	DOCUMENT NOT REQUIRED BY LOCAL JURISDICTION <input checked="" type="checkbox"/>
CLASS _____	S.C.H. NO. _____	S.C.H. NO. _____	
See Reverse Side			

FOR DIVISION USE ONLY					
MAP	MAP BOOK	CARDS	BOND	FORMS	
				114	121
W4-2	3/3/87	#	ll	87/10	#

58p
3/2/87

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to commence drilling well "Lieber" #1, well type Gas, API No. 029-79821 (Assigned by Division)
Sec. 28, T. 25S, R. 25E, MD B. & M., Wildcat Field, Kern County.

Legal description of mineral-right lease, consisting of 77.88 acres, is as follows: _____
(Attach map or plat to scale)
T25S, R25E, Section 28: E/2 NW/4, Kern County, California

Do mineral and surface leases coincide? Yes XX No _____. If answer is no, attach legal description of both surface and mineral leases, and map or plat to scale.

Location of well 660 feet South along section/property line and 2000 feet East
(Direction) (Cross out one) (Direction)
at right angles to said line from the Northwest corner of section/property _____ or
(Cross out one)

Is this a critical well according to the definition on the reverse side of this form? Yes ☐ No ☒

If well is to be directionally drilled, show proposed coordinates (from surface location) at total depth:
_____ feet _____ and _____ feet _____
(Direction) (Direction)

Elevation of ground above sea level 287.9 feet.

All depth measurements taken from top of kelly bushing that is 10 feet above ground.
(Derrick Floor, Rotary Table, or Kelly Bushing)

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES API	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS	CALCULATED FILL BEHIND CASING (Linear Feet)
13-3/8"	54.5#	K-55 BTC	10'	50'	50'	40' (42 sx)
9-5/8"	36#	K-55 STC	10'	810'	810'	800' (449 sx)
5-1/2"	17#	K-55 LTC	10'	4210'	4210'	4200' (1254 sx)

(A complete drilling program is preferred and may be submitted in lieu of the above program.)

Intended zone(s) of completion Mulina at 3608' (1875 psi) Estimated true vertical depth 3608'
(Name, depth, and expected pressure)

It is understood that if changes in this plan become necessary we are to notify you immediately.

Name of Operator <u>ARCO Oil and Gas Company</u>		Type of Organization (Corporation, Partnership, Individual, etc.) <u>Corporation</u>	
Div. of Atlantic Richfield Co.			
Address <u>4201 Stine Road</u>		City <u>Bakersfield</u>	Zip Code <u>93313</u>
Telephone Number <u>833-4060</u>	Name of Person Filing Notice <u>Kwas U. Park</u> <u>2/24/87</u>	Signature <u>Kwas U. Park</u>	Date <u>2/24/87</u>

This notice and indemnity or cash bond shall be filed, and approval given, before drilling begins. If operations have not commenced within one year of receipt of the notice, this notice will be considered cancelled.

EXHIBIT "B"

FRANCES KRAFT 25%

**BANK OF AMERICA,
TRUSTEE 25%**

TRANSAMERICA MINERALS 50%

77.27 ACRES

ELLEN RUTH LIEBER 20%

F. RUTH FORST TRUST 20%

VERA LIEBER STONE 20%

**MARY LIEBER GUNDERSON
20%**

RICHARD E. LIEBER 10%

CLEMENT E. LIEBER 10%

77.88 ACRES

28

ARCO Oil and Gas Company ♦
Division of AtlanticRichfieldCompany
Western District, Bakersfield

ARCO-LIEBER UNIT
T 25 S R 25 E, MDB&M
SECTION 28: NW 1/4
KERN COUNTY, CALIFORNIA

AUTHOR J. FISKE
DRAFTSMAN L. YOUNG

DATE 2-12-87
FILE #

N.W. COR. SEC. 28²⁵/₂₅
FD. KERN COUNTY
CONC. MON.

N. 1/4 COR. SEC. 28²⁵/₂₅
FOUND KERN COUNTY
CONC. MON.

SCHUSTER RD.

METTLER RD.

SECTION

ARCO LIEBER NO. 1

660' SOUTH AND 2000' EAST
OF THE N.W. COR. OF SEC.
28, T. 25 S., R. 25 E., M.D.M.
SET 2x2 HUB
ELEV. = 288.10

SCALE 1" = 400'

CASEY AVE.

T. 25 S.

M.D.M.

N. 1/4 COR. SEC. 28²⁵/₂₅
FOUND KERN COUNTY
CONCRETE MON.

SET 1x2 R.P.'S

100' N.
150' N.
100' W.
150' W.

ELEV.
287.90
NONE
287.97
NONE

BENCH MARK USED:

TOP OF PAVING AT THE N.W. COR. SEC. 28²⁵/₂₅
ELEV. = 284.0 (FROM U.S.G.S. QUAD SHEET)

PLAT OF ARCO LIEBER NO. 1 660' S. AND
2000' E. OF THE N.W. COR. SEC. 28²⁵/₂₅ M.D.M.

DRAWN BY:

J.P.

DATE:

FEB 20, '87

SCALE:

1" = 400'

APPROVED BY:

J.V.

JERRY E. VANCUREN
L.S. 3707

JOB NO.

1-87162

SHEET

1

OF 1



SIMPSON-VANCUREN

CIVIL ENGINEERING & SURVEYING

2210 CHESTER AVE. SUITE "C"

BAKERSFIELD, CALIFORNIA 93301

PHONE: 805-327-1112